



# STUNG!

## Dying bees could hurt fruit crop



Date G. Young / The Detroit News

Kyle Brown puts new bee colonies in empty hives on the roof of a barn on the Klein farm in Saginaw County.

BY MAUREEN FEIGHAN | *The Detroit News*

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**S**T. CHARLES — Terry Klein walks by the rows of empty honeybee hives stacked on his tree-filled farm in Saginaw County and hopes for better days.

Winter wasn't kind to the honeybees. Klein went into the fall with 1,000 hives. But a warm December and January made his bees more active and forced them to use up their stored honey more quickly than usual. That left the bees unable to withstand the resumption of cold winter weather. Most of them died, leaving him less than 200 hives.

"At one time, all these boxes were full," says Klein, gesturing to the rows of 1-by-2-foot wooden hives cov-

ered in red peeling paint as workers assembled new hives several feet away. "Now they're empty."

Beekeepers — as well as farmers, commercial fruit growers and produce consumers — across Michigan are facing an uncertain future as the new growing season begins, because of a triple dose of misfortune: unusual weather, parasitic mites and a mystery condi-

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# Bees

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tion called colony collapse disorder.

Combined, those factors have hammered bee populations, which could ultimately affect yields of fruits and vegetables and drive up the cost of the produce that bees pollinate.

In the colony collapse problem, bees leave their hives and don't come back, leaving behind the queen and stores of honey. "It's scary," said Roger Hoopingarner, a professor emeritus of entomology at Michigan State University, of the colony collapse disorder. He said when a hive is hit with the disorder, "there's nothing left to do a post-mortem on. There's nothing there."

The disorder — which first surfaced in Pennsylvania last fall and has spread to 23 other states — when added to disease and weather, "may be the perfect storm," said Hoopingarner. He said he heard of one beekeeper who lost 6,000 out of 8,000 colonies. Nationwide, the disorder has wiped out a quarter of the honeybee population.

More than 600,000 honeybee colonies have disappeared since last fall, and scientists are scrambling to figure out what's behind the problem.

Experts worry that the disorder could have serious consequences in Michigan, where growers depend on honeybees to pollinate their crops of apples, peaches, blueberries, cherries and other fruits and vegetables.

With fewer bees, pollination will cost more, crop yields could be smaller, and consumers could end up paying more.

"If the crop is reduced, that's what's going to happen," said Hoopingarner. "There will be fewer apples and cherries, and it'll affect the volume of the crop." At least two experts estimate

(they're using), what food

they're feeding them," he said.

David Anthony, head of the Michigan Beekeepers Association, said finding out what the problem is like "me taking a golf ball and trying to hit a butterfly in a square mile."

"We do know things are happening but we don't know what the cause is," Anthony said. Researchers are scheduled to meet this week in Washington, D.C., at a conference sponsored by the U.S. Department of Agriculture to discuss the disorder.

## Warm weather blamed

Local beekeepers and growers, meanwhile, are moving forward after a difficult winter.

Roger Sutherland, a longtime hobbyist beekeeper from Ann Arbor and member of the Southeast Michigan Beekeepers Association, lost all 10 of his colonies over the winter.

He suspects the warm weather — bees have a higher metabolic rate when the weather is warmer, meaning they eat their honey stores quicker — and a lack of nectar from too much development near his property were to blame.

"It didn't surprise me when I went out a few weeks ago and I found out they were all dead. I knew it in my bones," Sutherland said.

"I just had a feeling." Westview Orchards in Washington Township has gotten so used to losing its bees every winter that the longtime family-owned orchard just adds the cost of new bees into its budget every year. Westview has about 130 acres of fruit trees and about 100 hives.

"It does drive up our costs," said Katrina Schumacher, whose family owns Westview. "That's just the way it is."

But as colony after colony disappears, some worry if one day there won't be enough replacement bees.

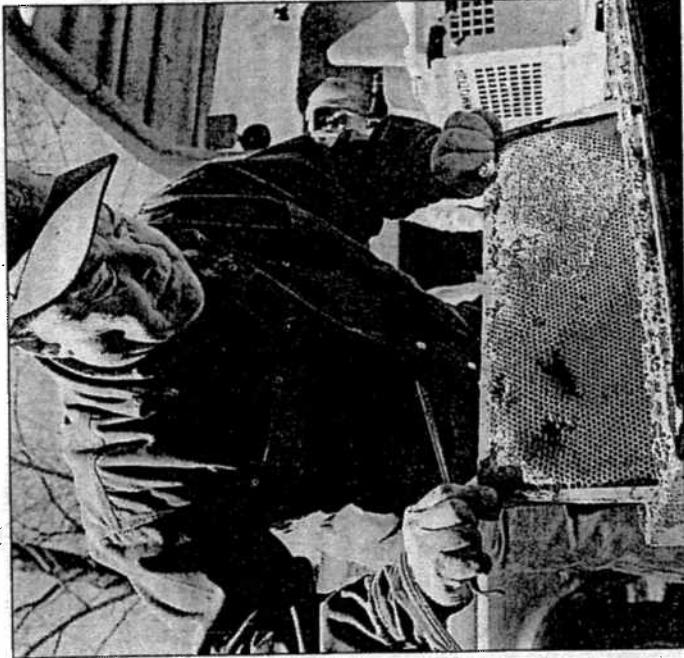
"We're depleting them"

"You can't raise bees fast enough the way we're depleting them," said Anthony of the beekeepers' association.

As his workers assemble one hive after another on a recent sunny day — shaking the bees out of their new packages and into their new homes — Klein says he's heard rumors about some beekeepers getting out of the beekeeping business because it's too expensive. He plans to stick with it.

"You got to be optimistic and resilient," Klein says. Without bees, "the whole food chain collapses."

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Dale G. Young / The Detroit News

**Beekeeper Terry Klein examines a hive in which a colony died over the winter. "You got to be optimistic and resilient," he says.**

just the latest ailment to strike honeybees in the last several decades. Two parasitic mites — the tracheal and the varroa — nearly wiped out the wild honeybee population and hit commercial colonies in the 1980s and '90s.

And while southern beekeepers seem hardest hit by the latest disorder, entomologist Zachary Huang, head of the MSU honeybee program since 1998, said it has also surfaced in Michigan, primarily affecting migratory beekeepers who take their colonies south for the winter. About 46 percent of the states' 65,000 colonies are migratory. But other than the fact that bees are taken to warm climates, there are no other similarities between who is and isn't affected, Huang said.

"We got to pass that on somehow," Klein said.

Pollination prices for fruit growers, meanwhile, could jump from \$35-\$45 a bee colony

ment bees.

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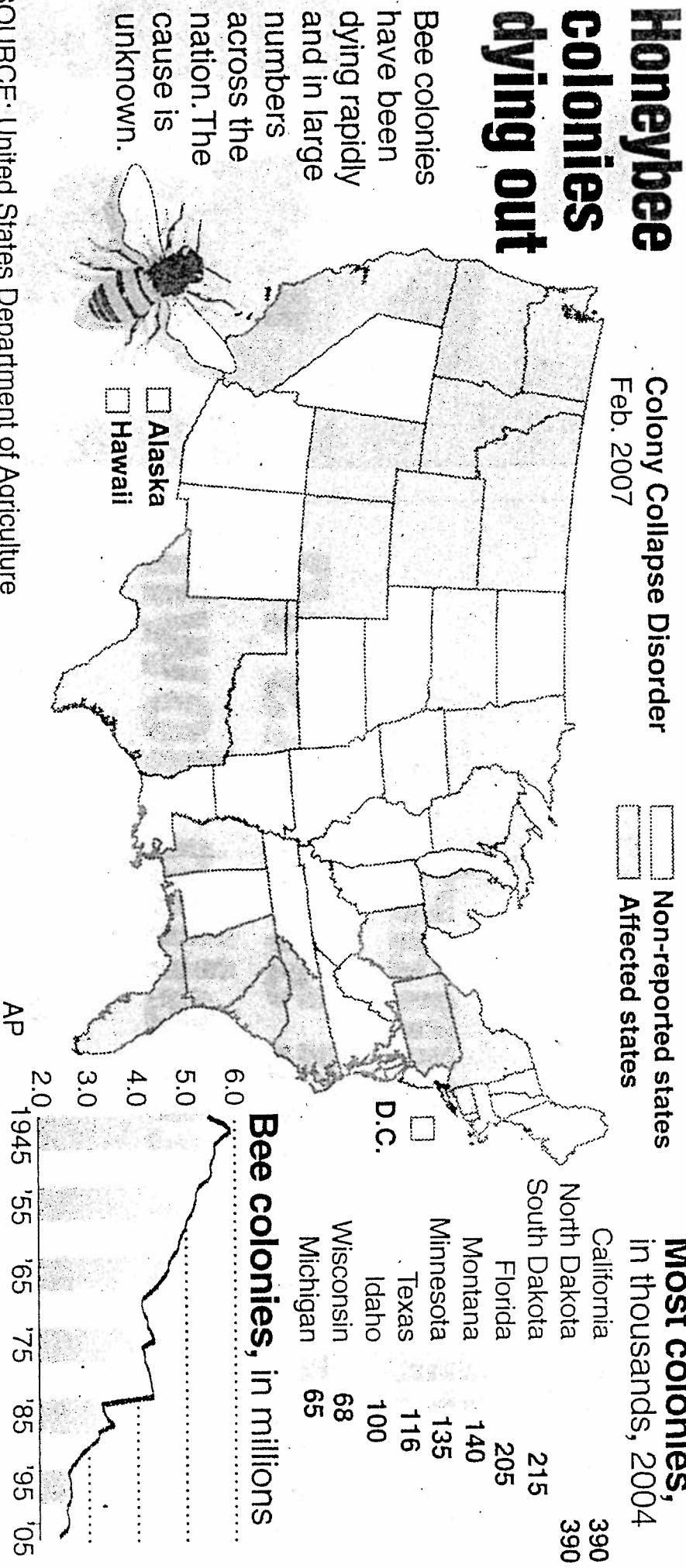
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# Honeybee colonies dying out

Colony Collapse Disorder  
Feb. 2007



SOURCE: United States Department of Agriculture



Dr. Albert Einstein, who was a lot smarter than most of us, made this statement; “If Honey Bees became extinct human society would follow in four (4) years.” That is how important Albert Einstein thought Honey Bees were. How can we get others to recognize that value of Honey Bees and help?



Dependence of crops on honey bees

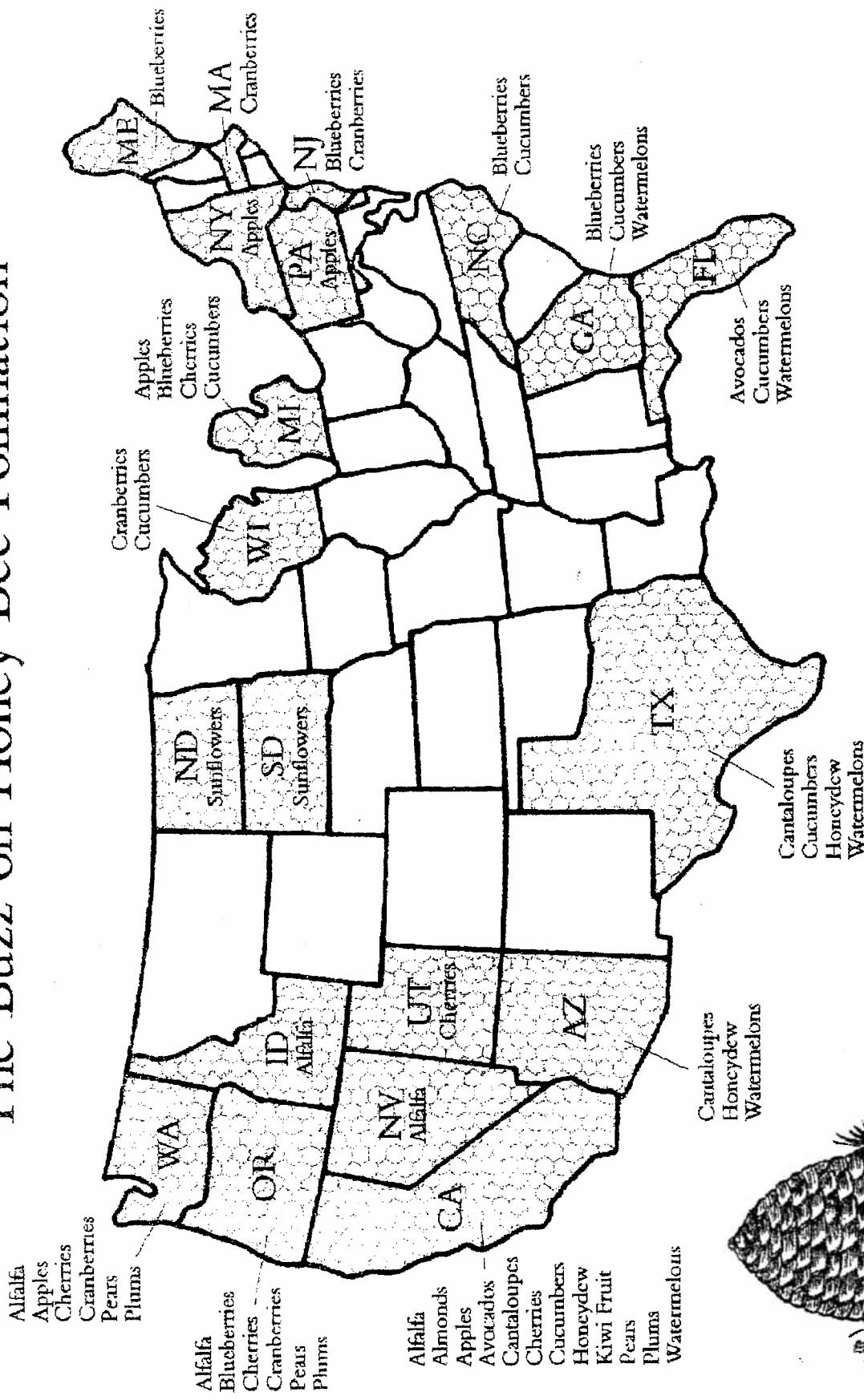
Crop type	Dependence on honeybees <sup>a</sup>		Crop type	Dependence on honeybees <sup>a</sup>	
	Dependence on honeybees <sup>a</sup>	Per cent		Dependence on honeybees <sup>a</sup>	Per cent
Almond	100	Lemon & Lime	20		
Apple	90	Lettuce	10		
Apricot	70	Lupin	10		
Asparagus	90	Macadamia	90		
Avocado	100	Mandarin	30		
Bean	10	Mango	90		
Blueberry	100	Nectarine	60		
Broccoli	100	Onion	100		
Brussels sprout	30	Orange	30		
Cabbage	30	Papaya	20		
Carrot	100	Peach	60		
Cauliflower	100	Peanut	10		
Celery	100	Pear	50		
Cherries	90	Plum and prune	70		
Cotton lint	20	Pumpkin	90		
Cucumber	90	Strawberry	40		
Grapefruit	80	Watermelon	70		
Kiwi	90				

<sup>a</sup> Dependence on honeybees reports the relationship between crop production and honeybee pollination services. Removal of all honeybees would see pollination and hence product supply decline by the reported figure.

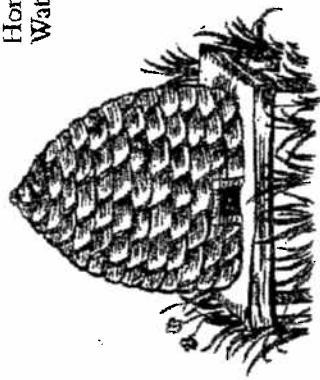
Source: Table 2.1 of Gill (1989).



# The Buzz on Honey Bee Pollination



Honey bees pollinate crops in all 50 states. This map highlights the major crop producing states where honey bee pollination is highest.



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